REMARKS

Claims 1-3, 5 and 7 stand rejected under 35 USC §102(b) as being clearly anticipated by W.R. Stevens ("TCP Timeout and Retransmission").

Claim 1 recites, among other things, transmitting a second number of user data packets from the series of user data packets to the receiver at a later time, and receiving a confirmation of receipt transmitted on receipt of a first number of user data packets from the receiver. Wherein the later time is defined such that it is before a time of receipt of the confirmation of receipt by the transmitter of the user data packets.

Stevens does not disclose or render obvious all of the elements of claim 1.

Stevens describes the TCP Slow Start mechanism. This mechanism has two distinct phases: an exponential growth phase, and a linear growth phase.

During the exponential growth phase, Slow-start works by increasing the TCP congestion window each time an acknowledgment is received. It increases the window size by the number of segments acknowledged. This happens until either an acknowledgment is not received for some segment or a predetermined threshold value is reached. If a loss event occurs, TCP assumes this it is due to network congestion and takes steps to reduce the offered load on the network. Once a loss event has occurred or the threshold has been reached, TCP enters the linear growth phase in which the window size is increased more gradually.

Referring to Figure 21.2 in Stevens, the sender initially has a window size of one, and sends a first (single) packet at point 1. After the first packet has been acknowledged (ack 257 at point 2), the window size from the sender is increased to two, and so two further packets are sent (one at point 3 and one at point 4). These packets are acknowledged by acknowledgements ack 513 and ack 769 (sent at points 5 and 8 respectively). Receipt of acknowledgement 513 causes the sender to increase its sending window again by one, so that the window size is three. However, since there has not yet been an acknowledgement received in respect of the packet sent at point 4, this means that two user packets are sent (one at point 6 and one at point 7) which leaves three packets outstanding (i.e. the complete size of the window). It seems that in this implementation, the window size at the sender has a maximum of three because

subsequent receipt of acknowledgement 769 does not cause the sender to increase its sending window further and so only one user packet is sent (at point 9).

In Stevens, the packets sent from the side identified as slip.1024 and the acknowledgements sent from the side identified as vangogh.discard are individual packets and individual acknowledgements. They are not groups of packets.

At best, Stevens discloses transmitting a first number of user data packets (corresponding to the sending of packets at points 3 and 4) and transmitting a second number of user data packets (corresponding to the sending of packets at points 6 and 7).

Claim 1 recites, a confirmation of receipt, which is transmitted on receipt of the first number of user data packets, is received after the second number of user data packets are transmitted. However, as is clear from the explanation of Stevens above, that the packets at points 6 and 7 are not transmitted before there has been received "a confirmation of receipt transmitted on receipt of [a] first number of user data packets". At the time the packets at points 6 and 7 are transmitted there has in fact been received a confirmation of receipt in respect of the packet sent at point 3. Although an acknowledgement in respect of the packet sent at point 4 is still outstanding at the point at which the packets at points 6 and 7 are sent, they are being sent as a response to an acknowledgement having been received in respect of the packet sent at point 3. Consequently, Stevens does not disclose or render obvious "transmitting a second number of user data packets to a receiver at a later time wherein the later time is defined such that it is before receiving a confirmation of receipt by the transmitter of the user data packets", as recited in claim 1.

Furthermore, Stevens does not render claim 1 obvious. Stevens clearly discloses that a packet is transmitted, and an acknowledgement is received. In response to the receipt of this acknowledgement, a further packet (or further packets) can be sent. Stevens operates on the basis of new packets only being sent in response to an acknowledgement having been received. Assuming that Stevens sends a packet while there is still an outstanding acknowledgement, this is an acknowledgement in respect to a separate chain of transmitting packets and receiving acknowledgements. However, claim 1 recites that sending of the first number of user data packets is related to the sending of

the second number of user data packets by a confirmation of receipt *in respect of the first number of user data packets*, not in relation to one previous packet.

The Stevens TCP Slow Start mechanism provides a rapid ramp-up of sending data packets within the constraints of receiving acknowledgements for individual packets. As such it contains no teaching or suggestion that a second number of user data packets is transmitted at a later time which is before a confirmation of receipt of a first number of user data packets has been received. To modify Stevens to include such a feature would render the device inoperative for its intended use.

Accordingly, claim 1 and its dependent claims are allowable over the cited prior art.

Claims 4, 6 and 8-10 stand rejected under 35 USC §103(a) as being unpatentable over Stevens in view of USPN 6,222,829 to Karlsson.

Applicant submits that Karlsson does not overcome the deficiencies of Stevens. Therefore, independent claim 1 and its dependent claims are allowable over the cited prior art.

The Commissioner is hereby authorized to charge deposit account 02-1818 for any fees which are due and owing.

Respectfully submitted,
BELL, BOYD & LLOYD LLP

BY _____
Jeffrey J. Howell
Reg. No. 46,402
Customer No. 29177

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